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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,381	09/12/2003	Robert Dubrow	40-002810US	6710
22798	7590	11/18/2004		
QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C. P O BOX 458 ALAMEDA, CA 94501			EXAMINER	MAYES, MELVIN C
			ART UNIT	PAPER NUMBER
			1734	

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/661,381	DUBROW, ROBERT	
	Examiner Melvin Curtis Mayes	Art Unit 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-56 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All
  - b) Some \*
  - c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/7/04.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

(1)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(2)

Claims 1-12, 14-20 and 23-55 are rejected under 35 U.S.C. 102(e) as anticipated by Knowles et al. 2004/0071870.

Knowles et al. disclose a method of using an adhesive tape comprising: forming an adhesive tape by growing aligned nanofibers from a substrate; and placing the adhesive tape against a mating surface to produce intermolecular (van der Waals) force between the nanofibers of the adhesive tape and the mating surface. The nanofibrils can be carbon nanotubes with array of density of  $10^7$ - $10^8/\text{mm}^2$ , the bond between the tape and mating surface can be equal to or greater than 0.26 psi ( $0.18 \text{ N/cm}^2$ ), 2.6 psi ( $1.8 \text{ N/cm}^2$ ), 26 psi ( $18 \text{ N/cm}^2$ ) or 260 psi ( $180 \text{ N/cm}^2$ ), and the nanofibrils can be coated with carbon ([0071]-[0107], Claims 1-44).

***Claim Rejections - 35 USC § 103***

(3)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

(4)

Claims 1-14 and 23-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fearing et al. 2003/020888.

Fearing et al. 2003/020888 discloses a method of making an adhesive microstructure comprising: providing a supporting surface with stalks each having a spatula or protrusion. The stalks can comprise nanohairs such as carbon nanotubes or other synthetic nanotubes. Fearing et al. disclose that applications of the adhesive microstructure include as a micromanipulator to pick and place components, as tape, band-aids, etc. The adhesion is by van der Waals attraction ([0009]-[0132]).

By using an adhesive microstructure of carbon nanotube stalks on a supporting surface

for such applications as a micromanipulator to pick and place components, as tape or as a band aid, a first surface comprising nanofibers attached thereto is obviously contacted with a second surface, as claimed, such that forces between the nanofibers and the second surface or first and second surfaces adhere the surfaces, as claimed in Claims 23, 40 and 43.

(5)

Claims 1-13, 21-50 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dzenis et al. 6,265,333.

Dzenis et al. disclose a method of making delamination resistant composites comprising: providing a prepreg; attaching secondary reinforcement fibers to the prepreg by either attaching a thin fiber mat of reinforcement polymer nanofibers to the prepreg or electrospinning nanofibers onto the prepreg; and laminating the prepreg to another prepreg with the nanofibers between the preps. The nanofibers at the interface suppress delamination. Delamination resistant composites are prepared wherein at least one of the prepreg surfaces forming the interface between layers comprises the secondary reinforcement nanofibers (col. 3, line 25 – col. 4, line 27, col. 8, lines 5-10, col. 10, lines 6 col. 11, line 17).

By laminating preps with nanofibers between the preps to make a delamination resistant composite, a first surface comprising nanofibers attached thereto is obviously contacted with a second surface, as claimed, such that forces between the nanofibers and the second surface or first and second surfaces adhere the surfaces, as claimed in Claims 23, 40 and 43.

(6)

Claims 1-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/40812.

WO 99/40812 discloses a method of micro-fastening comprising: attaching functionalized carbon nanotubes to first and second substrates; and joining the substrates by the nanotubes, the extending nanotubes becoming mechanically interconnected. The substrates are formed of metals, carbon, silicone, germanium, polymers or composites thereof. Surface bonds based on the nanotubes, while extremely strong, may be re-opened and re-closed (entire document).

By joining substrates having attached functionalized carbon nanotubes by mechanically interconnecting the nanotubes, a first surface comprising nanofibers attached thereto is obviously contacted with a second surface, as claimed, such that forces between the nanofibers and the second surface or first and second surfaces adhere the surfaces, as claimed in Claims 23, 40 and 43.

### *Conclusion*

(7)

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references disclose coating substrates with nanofibers.

(8)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Curtis Mayes whose telephone number is 571-272-1234. The examiner can normally be reached on Mon-Fri 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on 571-272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Melvin Curtis Mayes  
Primary Examiner  
Art Unit 1734

MCM  
November 9, 2004